



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,409	02/25/2004	Stefan Moeller	LINDE-0619	8360

23599 7590 09/02/2005

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
----------	--------------

3753

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Tntn

Office Action Summary	Application No. 10/785,409	Applicant(s) MOELLER ET AL.	
	Examiner Teresa J. Walberg	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/25/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the present drawing appear to be informal since the lines are rough. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allam et al (5,324,452) in view of Reavis et al (5,415,223).

Allam et al discloses a plate heat exchanger (see Fig. 4) as claimed including a heat exchanger block (400) which has a multiplicity of heat exchange passages (436, 438), a header (414) which extends over at least part of one side of the heat exchanger block (400) and makes a flow connection between part of the heat exchange passages (438) and which is provided with a fluid connection (424), which is arranged essentially perpendicularly to that side of the block, the header possessing a semicircular cross section (see Fig. 4).

Allam et al does not disclose the header having internal fluid routing means.

Reavis et al teach providing internal fluid routing means (60, in Figs. 4 and 6) in the header (50) of a heat exchanger.

It would have been obvious in view of Reavis et al to provide fluid routing means in the header of Allam et al, the motivation being to control the rate of flow to the various passages.

4. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allam et al (5,324,452) in view of Reavis et al (5,415,223) as applied to claims 1 and 2 above and further in view of Yamaguchi (5,690,160).

Allam et al in view of Reavis et al discloses a plate heat exchanger as claimed with the exception of a plurality of heat exchanger blocks with the gap between the blocks being closed by a sheet or strip, and with the header providing communication between the blocks.

Yamaguchi teaches providing a heat exchanger with a plurality of heat exchanger blocks (See Fig. 6) with the gap between the blocks being closed by a sheet or strip (411), and with the header (110, 111) providing communication between the blocks (Fig. 4).

It would have been obvious in view of Yamaguchi to provide a plurality of heat exchanger blocks with the gap between the blocks being closed by a sheet or strip, and with the header providing communication between the blocks in the

heat exchanger of Allam et al in view of Reavis et al, the motivation being to control the rate of flow to various sections of the heat exchanger and to make it easier to modify the capacity of the heat exchanger.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fischer et al and Horiuchi et al are cited to show header structure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/785,409

Page 5

Art Unit: 3753

A handwritten signature in black ink, reading "Teresa J. Walberg". The signature is written in a cursive style with a large, stylized "T" and "W".

Teresa J. Walberg
Primary Examiner
Art Unit 3753

tjw